

NOTES ON *TRACHYMENE* RUDGE (APIACEAE) IN QUEENSLAND, 2

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Summary

A key to the species of *Trachymene* known to occur in Queensland is provided. A new species, *Trachymene montana* Holland, and a new variety, *T. bivestita* var. *pterocharpa* Holland, are described. Previous descriptions of *T. bivestita* (Domin) L. Johnson and *T. tenuifolia* (Domin) B.L. Burtt are amended. All species are listed with distribution, place of publication and notes on toxicity.

Introduction

In the first part of this work, (Holland 1989), a new species, *T. clivicola* Boyland & Holland, and new combination, *T. hookeri* (Domin) Holland were described and a new record for Australia, *T. cussonii* (Montr.) B.L. Burtt, was noted. This paper completes this treatment of *Trachymene* Rudge in Queensland with a key to the species, and descriptions of a new species and variety. This work was carried out as part of the Botany Branch Strategic Taxonomy Program.

Key to *Trachymene* in Queensland

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|----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|----|
| 1. Mericarps densely covered with hairs 1-1.5 mm long | 1. <i>T. gilleniae</i> | |
| Mericarps glabrous, smooth or tuberculate | | 2 |
| 2. Fruits consisting of a single mericarp | | 3 |
| Fruits with two mericarps present, sometimes unequal in size | | 8 |
| 3. Mericarps more than 4 mm long (including wing if present) | | 4 |
| Mericarps less than 4 mm long | | 7 |
| 4. Mericarps with a thin 0.5-2 mm wide wing on outer edge | | 5 |
| Mericarps without a wing | | 6 |
| 5. Spreading multistemmed herb to 40 cm high; leaf blades deeply tripartite,
up to 3 cm long; segments shallowly lobed; lobes 2-5 mm wide | | |
| Erect single-stemmed herb to 80 cm high; leaf blades deeply trisected,
up to 7 cm long; segments deeply lobed; lobes 1-2 mm wide | 2. <i>T. clivicola</i> | |
| | 6. <i>T. bivestita</i> var. <i>pterocharpa</i> | |
| 6. Stems and leaves glandular hairy | 3. <i>T. glandulosa</i> | |
| Stems and leaves completely glabrous | 4. <i>T. glaucifolia</i> | |
| 7. Mericarps 3-4 mm long with a prominent ring of large papillae on outer
edge | 5. <i>T. cyanantha</i> | |
| Mericarps 2.5-3.5 mm long, evenly papillose or completely
smooth | 6. <i>T. bivestita</i> var. <i>bivestita</i> | |
| 8. Leaves basal, hairy; leaf blades orbicular with 5-7 shallow lobes; lobes
dentate | 7. <i>T. geraniifolia</i> | |
| Leaves basal or cauline, glabrous or hairy; leaf blades deeply trisected
and pinnatifid | | 9 |
| 9. Mericarps more than 4 mm long | | 10 |
| Mericarps less than 3.5 mm long | | 11 |
| 10. Plants tussock-forming, to 30 cm high | 8. <i>T. cussonii</i> | |
| Plants erect, up to 1 m high | 4. <i>T. glaucifolia</i> | |

11. Plants prostrate, creeping 12
Plants erect, weakly erect or ascending 13
12. Leaf blades up to 2 cm long; mericarps 1.5–2 mm long .. 12. *T. psammophila*
Leaf blades mostly more than 2 cm long; mericarps 2–3 mm long
..... 11. *T. procumbens*
13. Leaves mostly crowded at base, a few small leaves on stem 14
Leaves basal and cauline, not crowded at base 15
14. Mericarps less than 2 mm long; leaf segments obtuse 9. *T. ochracea*
Mericarps 2–3.5 mm long; leaf segments acute 10. *T. incisa*
15. Slender, multistemmed, weakly erect or ascending herbs to 30 cm; leaf
segments acute or acuminate, 0.5–1.5 mm wide 16. *T. tenuifolia*
Erect, single-stemmed herbs usually more than 30 cm high, robust, often
woody at base; leaf segments 1–6 mm wide, rounded or acute 16
16. Bracts narrowly triangular, often lobed, distinctly shorter than pedicels,
1–6 mm wide, fruit 1.6–2 mm long 15. *T. montana*
Bracts subulate, entire, mostly equal or longer than pedicels, 1–2 mm
wide; fruit 2–3 mm long 17
17. Leaf segments rounded or broadly acute, 2–6 mm wide; umbels 8–10
mm wide in fruit 13. *T. longipedunculata*
Leaf segments acute or acuminate, 1–4 mm wide; umbels 10–16 mm
wide in fruit 14. *T. hookeri*

1. *T. gilleniae* (Tate) B.L. Burtt, J. Bot. 79: 46 (1941); *Didiscus gilleniae* Tate, Report of the Horn Scientific Expedition Pt 3:188 (1896). Type: Northern Territory. Mt Gillen, 1894, *R. Tate* s.n., (holo: K, *n.v.*).

Distribution: Northern Territory and recently collected from the Selwyn Ranges in North-western Queensland.

2. *T. clivicola* Boyland & Holland, Austrobaileya 3(1): 135–139 (1989). Type: Queensland. GREGORY NORTH DISTRICT: Kurran HS, c. 160 km WNW of Jundah, June 1974, *D.E. Boyland* 7060 (holo, iso: BRI(AQ 378654)).

Distribution: Far western Queensland.

3. *T. glandulosa* (F. Muell.) Benth., Fl. austral. 3: 350 (1866); *Didiscus glandulosus* F. Muell., Proc. Roy. Soc. Tasmania 3: 238 (1857). Type: Queensland. BURKE DISTRICT: Nicholson River, Gulf of Carpentaria, August 1856, *F. Mueller* (holo: MEL(MEL 37000), photo BRI).

Distribution: North-western Queensland and the Gulf of Carpentaria.

4. *T. glaucifolia* (F. Muell.) Benth. *loc. cit.*; *Didiscus glaucifolius* F. Muell., Linnaea 25: 395 (1852). Type: South Australia. Elders Range, October 1851, *F. Mueller* (holo: K!, photo BRI).

Distribution: Western Queensland, New South Wales, Northern Territory, South Australia, Western Australia.

Note: Suspected of being toxic to stock.

5. *T. cyanantha* Boyland, Contr. Queensland Herb. 10 (1972). Type: Queensland. WARREGO DISTRICT: 24.2 km S of Cheepie, September 1967, *Pedley* 2449 (holo: BRI(AQ 024325)).

Distribution: Western Queensland.

Note: Known to be toxic to stock.

6. *Trachymene bivestita* (Domin) L. Johnson, Contr. N.S.W. Natl Herb. 3: 101 (1962); *Didiscus benthamii* var. *bivestitus* Domin, Sitzungsber. Königl. Böhm. Ges. Wiss. Prag, Math.-Naturwiss. Cl. 10: 40 (1908). Type: Queensland. COOK DISTRICT: Newcastle Range, without date, *F. Mueller* (holo: MEL!(MEL 36985)).

Erect single-stemmed herb to 80 cm high. Stem thickened at base or slender with few or many flowering branches, glabrous or sparsely glandular hairy sometimes glaucous. Leaves cauline, a few crowded at base, leaf blades ovate or rounded in outline, usually much divided with non-glandular hairs on veins and margins and glandular hairs at base and on petioles. Lower leaves alternate; petioles dilated at base, 1.5–7 cm long; leaf blades deeply trisected, 1.5–7 cm long, lobes pinnatifid, often further divided, ultimate segments linear or narrowly oblong, acute, rounded or truncate, 1–3 mm wide. Upper leaves opposite, subtending inflorescence branches, sessile or shortly petiolate, entire or deeply trisected or further divided, 0.6–4.5 cm long, otherwise similar. Peduncles 2.5–14 cm long, densely glandular hairy at base. Umbels 1–2 cm wide with 12–75 flowers and 10–18 bracts; bracts narrowly triangular, subulate, 2–7.5 mm long and 3–6 mm wide, glandular hairy; pedicels 2–8 mm long. Petals obovate, 1–1.8 mm long and 0.6–1.3 mm wide, white or pale blue. Styles 0.8–2.5 mm long, bright blue. Anthers 1.2–2 mm long. Fruit with only one mericarp developing; mericarps obliquely rounded, laterally flattened, 2.6–5.5 mm long and 1.7–4 mm wide, glabrous, evenly tuberculate or entirely smooth, wingless or with a thin smooth wing 0.5–1 mm wide.

Two varieties are recognized:

- Mericarps wingless, 2.6–3.8 mm long and 1.7–3 mm wide, evenly tuberculate or smooth var. **bivestita**
 Mericarps winged, 5.3–5.5 mm long and 3.5–4 mm wide, slightly tuberculate; wing thin, smooth, 0.5–1.0 mm wide var. **pteroarpa**

***Trachymene bivestita* var. *bivestita* Fig. 1G.**

Selected specimens: (all BRI) Queensland. COOK DISTRICT: Lyasid [Lizard] Island, 1842, *Macgillivray* 52; 17.9 km SE of Alice R. crossing on the track from Kimba to the new Dixie-Oroners Rd, Jun 1981, *Clarkson* 3750; Boyle Creek (NW of Mareeba), Apr 1962, *McKee* 9153; Forsyth-Einasleigh road c. 48 km W of Einasleigh, Apr 1975, *Orchard* 4732; c. 14 km S of Mutchilba, towards Stannary Hills, May 1983, *Conn & De Campo* 1231; Blue Hills area, Mt Surprise Gemfields, 42 km from township of Mt Surprise, Apr 1985, *Champion* 139; Black Rock, 16 miles [25.6 km] S of Lynd Junction on Hann Hwy between Hughenden and Mt Garnet, May 1970, *Webb & Tracey* 10163.

Distribution and habitat: Occurs in north-eastern Queensland from Lizard Island and the Alice River in the north, to Black Rock near the Lynd Junction in the south. Found on sandy or rocky soils in open eucalypt woodland or grassy flats.

***Trachymene bivestita* var. *pteroarpa* Holland var. nov. a var. *bivestita* mericarpo in ala expanso differt. Typus:** COOK DISTRICT: Yaramulla Station, adjacent to Pinwill Cave, 80 km SW of Mt Garnet, April 1989, *V.J. Neldner* 2776 (holo: BRI(AQ 500288)). **Fig. 1F.**

The distinguishing characters are set out in the key above.

Specimens examined. (all BRI): Queensland. COOK DISTRICT: Yaramulla Station, Gulf Development Road, Jul 1981, *Williams* 81116.

Distribution and habitat: Known only from the type locality in northern Queensland, in open *Eucalyptus erythrophloia* woodland adjacent to low closed forest in a collapsed area of lava tubes.

Etymology: The specific epithet is derived from the Greek, *ptero*, wing and *carpos*, fruit.

Note: The description of *T. bivestita* is based on Domin's diagnosis of *Didiscus benthamii* var. *bivestita* and on Queensland material most closely matching the type.

Two specimens from Laura sandstone area (*Clarkson* 4688 and *Byrnes* 3353) have fruits consisting of a single mericarp and have leaves similar to those of *T. bivestita* but they are more slender, more branched and have smaller umbels with fewer flowers and short glabrous bracts.

7. **T. geraniifolia** Bailey, Queensl. fl. 6: 2015 (1902) (Additions); *Didiscus geraniifolius* (Bailey) Domin, Sitzungsber. Königl. Böhm. Ges. Wiss. Prag, Math.-Naturwiss. Cl. 10: 55 (1908). **Type:** Queensland. COOK DISTRICT: Mt Alexandra, November 1902, *Newport 9* (holo BRI!(AQ 024332)).

Distribution: Rare on coastal mountains in north-eastern Queensland.

8. **T. cussonii** (Montr.) B.L. Burtt, J. Bot. 79: 45 (1941); *Hydrocotyle cussonii* Montr., Mem. Acad. Roy. Sci. Lyon, Sect. Sci. ser 2, 10: 211 (1860). **Type:** De l'île Art, (Pers de la Nouvelle Calédonie) (*n.v.*).

Distribution: Islands of the Capricornia Section of the Great Barrier Reef.

9. **T. ochracea** L. Johnson, Contr. New South Wales Natl Herb. 3: 100 (1962). **Type:** New South Wales: Waverley Downs (W. of Paroo River, near Hungerford), October 1912, *J.L. Boorman*, (holo: NSW (NSW 5406) *n.v.*).

Distribution: Western Queensland, New South Wales.

Note: Known to be toxic to stock.

10. **T. incisa** Rudge, Trans. Linn. Soc. London 10: 300 (1811). **Type:** Sydney Harbour, Port Jackson, May 1801, *R. Brown* (holo: MEL!(MEL 37071)).

Distribution: South-eastern Queensland, New South Wales.

11. **T. procumbens** (F. Muell.) Benth., Fl. austral. 3: 351 (1866); *Didiscus procumbens* F. Muell., Proc. Roy. Soc. Tasmania 3: 237. **Type:** Queensland. MORETON DISTRICT: Brisbane River, Moreton Bay, *F. Mueller* (MEL!).

Distribution: South-eastern Queensland, New South Wales.

12. **T. psammophila** Maconochie, J. Adelaide Bot. Gard. 2(2) (1980). **Type:** Northern Territory. Wessel Islands, September 1972, *P.K. Latz* (holo: DNA; iso: BRI!).

Distribution: Cape York Peninsula and the Wessel Islands in northern Queensland and the Northern Territory.

13. **T. longipedunculata** Maconochie, *loc. cit.* **Type:** Northern Territory. Wessel Islands, September 1972, *P.K. Latz* 3237 (holo: DNA; iso: BRI!).

Distribution: Cape York Peninsula and the Wessel Islands in far northern Queensland and the Northern Territory.

14. **T. hookeri** (Domin) Holland, Austrobaileya 3(1): 135–136 (1989). *Didiscus procumbens* var. *hookeri* Domin, *loc. cit.* **Type:** Queensland. COOK DISTRICT: Lizard Island, August 1848, *J. MacGillivray* s.n. (lecto K!(2 sheets), photo BRI).

Distribution: North-eastern and far northern Queensland.

15. **Trachymene montana** Holland *sp. nov.* affinis *T. longipedunculata* Maconochie sed inflorescentiarum bracteis latioribus (2–6 mm latis), pedicellis quam bracteis longioribus et mericarpis parvioribus (1.6–2 mm longis) differt. **Typus:** Queensland. COOK DISTRICT: Tinaroo Creek Forestry Road, near Mt Haig, c. 4.5 km NNW of Danbulla, (17°06'S, 145°36'E), September 1980, *J.R. Clarkson* 3436 (holo: BRI(AQ 346129)).

Erect single-stemmed herb to 70 cm high with a short primary root. Stem thickened and somewhat woody at base, with many slender flowering branches, glabrous. Leaves cauline, not crowded at base; leaf blades broadly ovate in outline, somewhat membranous, glabrous or with non-glandular hairs on veins, sometimes sparsely glandular hairy at base and on petioles. Lower leaves alternate or opposite; petioles 0.5–3.6 cm long, dilated at base; leaf blades deeply trisected, (1.2–)1.5–8.3 cm long; lobes further deeply pinnatifid, sometimes further lobed; ultimate segments linear or lanceolate, obtuse or acute, 1–4 mm wide. Upper leaves opposite, subtending flowering branches; petioles to 1.2 cm long; leaf blades entire or deeply trisected and pinnatifid, 1.0–3.0 cm long; lobes linear or lanceolate, acute or obtuse. Peduncles slender, 1.0–7.7 cm long, glandular hairy at base. Umbels 7–10 mm wide (10–12 mm wide in fruit) with 20–42 flowers and 8–14 bracts;

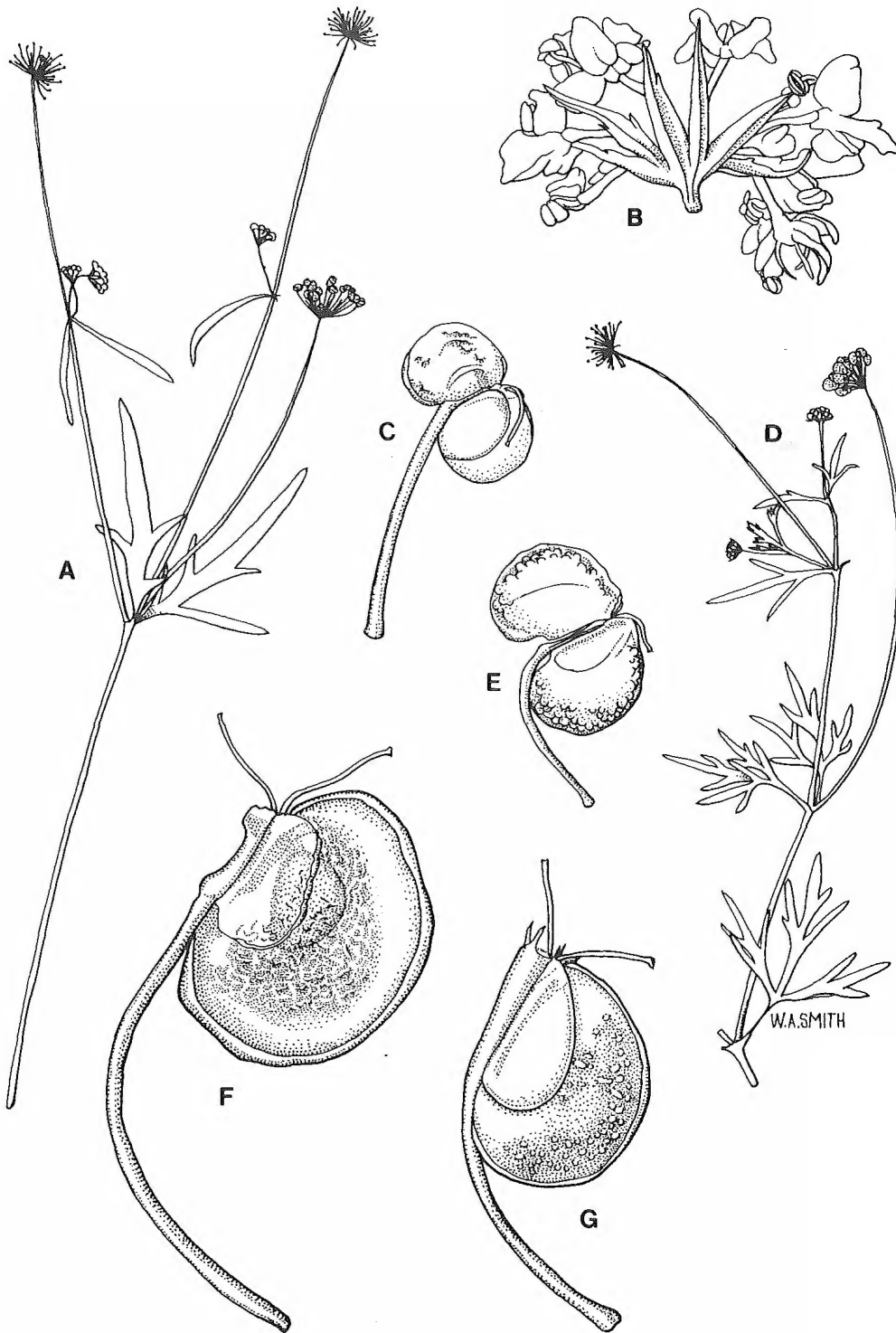


Fig. 1. *Trachymene montana*: A. flowering branchlet $\times 1$. B. umbel of flowers $\times 8$. C. mature fruit $\times 8$. *T. tenuifolia*: D. Flowering branchlet $\times 1$. E. mature fruit $\times 8$. F. *T. bivestita* var. *pterocarpa*: mature fruit $\times 8$. G. *T. bivestita* var. *bivestita*: mature fruit $\times 8$. (A-C, J.R. Clarkson 3436; D,E, L.S. Smith 12654; F,G, I.G. Champion 272.)

bracts narrowly triangular, entire or lobed, acute or acuminate, 1–3.4(–4.2) mm long and 0.2–0.6 mm wide at base, glabrous; pedicels slightly longer, or up to three times as long as bracts, 1.8–3.8(–4.6) mm long. Petals broadly elliptic, rounded, 0.8–1.4 mm long and 0.5–1 mm wide, white or pink. Styles 0.3–1.2 mm long, white or pink. Anthers 8–16 mm long. Fruit of paired mericarps, semicircular in outline, laterally flattened, 1.6–2.0 mm long and 1.2–1.8 mm wide, wingless, glabrous, tuberculate. **Fig. 1A–C.**

Specimens examined (all BRI): Queensland. COOK DISTRICT: S.F.R. 185, Douglas Ck area, Apr 1964, *Dansie* 3048; S.F.R. 185, Apr 1964, *Hyland* 3048; 9.6 km SSW of Irvingbank, Apr 1962, *Whitehouse* s.n. NORTH KENNEDY DISTRICT: East of Baal Gammon Mine, c. 1 km N of Herberton to Irvingbank Rd., c. 7 km W. of Herberton, Jun 1983, *Conn & De Campo* 1278; 19.2 km SW of Herberton, junction of Woolawan and Little Woolawan Cks, May 1962, *Whitehouse* s.n.; Mt Dryander, western slope, Apr 1978, *Byrnes* 3878 & *Clarkson*.

Distribution and habitat: North-eastern Queensland on mountains and plateau areas from the Douglas Ck area north of Atherton to Mt Dryander near Proserpine. It occurs in dry rainforests or open *Eucalyptus* forests.

Affinities: This species is related to *T. longipedunculata* Maconochie and *T. hookeri* (Domin) Holland. *T. longipedunculata* has 1–2 mm wide bracts longer than the pedicels and fruits more than 2 mm long. *T. hookeri* is taller, usually 1–2 mm high, with more divided leaves and fruits 2–3 mm long.

Etymology: The specific epithet was chosen to indicate the montane habitat of this species.

Note: A specimen from Mt. Spurgeon (*White* 10658) has slightly larger umbels and fruits but resembles *T. montana* in all other ways.

16. *Trachymene tenuifolia* (Domin) B.L. Burt, J. Bot. 79: 45 (1941); *Didiscus tenuifolius* Domin, Sitzungsber. Königl. Böhm. Ges. Wiss. Prag, Math.-Naturwiss. Cl. 10: 58 (1908). **Type:** “Australia, sine statione indicata, e Neapoli misit” *Sprenger* (sub no. 26)” (holo: K!, photo BRI).

Weakly ascending multistemmed herb to 30 cm high with a slender primary root. Stems slender, weak, glabrous, with few or many slender flowering branches. Leaves mostly basal; leaves blades ovate in outline, much divided into many narrow segments, glabrous or with a few hairs on veins. Lower leaves mostly crowded at base; petioles 0.5–5 cm long, glabrous or with a few hairs; leaf blades trisected almost to base with lobes deeply trisected and further deeply divided; 1–3 cm long; ultimate segments linear, acute or acuminate, 0.5–1.5 mm wide. Upper leaves entire or deeply bi- or trisected, sessile or shortly petiolate, 0.5–2.2 mm long, otherwise similar to lower leaves. Peduncles slender, ascending, 1.5–8.5 cm long and 0.3–0.5 mm thick, glabrous or with a few glandular hairs at base. Umbels 5–10 mm wide with 7–25(–33) flowers and 8–12 bracts; bracts filiform, acuminate, 1.7–3.8(4.5) mm long and 1–3 mm wide at base, glabrous; pedicels 1.5–4 mm long. Petals obovate, 0.8–1.2 mm long and 0.5–0.8 mm wide, pale pink or white. Styles 0.5–1.0 mm long, white. Anthers 6–10 mm long. Fruit of paired mericarps; mericarps semicircular in outline, slightly laterally flattened, wingless, 1.2–2 mm long and 0.8–1.3 mm wide, glabrous, smooth or tuberculate. **Fig. 1 D–E.**

Selected Specimens (all BRI): Queensland. COOK DISTRICT: Friday Is., without date, *Hasaiell* s.n. [AQ 089246]; Thursday Is., May 1906, *Tate* 27; Mutee Head, Jun 1988, *Forster* 4468; Wenlock, Batavia R., Jul 1948, *Brass* 19707; Tucanoo, c. 16 km S of Cape York (Laradenya Mouth), Oct 1965, *Smith* 12654.

Distribution and habitat: Most commonly found on sandy foredunes from Friday Is. to Batavia on the Wenlock River.

Affinities: *T. psammophila* Maconochie is similar to this species but is more prostrate with thickened stems and trilobed leaves with ultimate segments 2–4 mm wide.

Three specimens (*Scarth-Johnson* 1311A, *Clarkson* 2101, *Morton* 1282) resemble *T. psammophila* but have more divided leaves.

Note: This species was originally described by Domin from a specimen of uncertain origin and without fruiting material. Domin distinguished the species on the basis of the very narrow leaf segments. This description is based on specimens which most closely match the type cited by Domin.

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Reference

HOLLAND, A.E. (1989). Notes on *Trachymene* Rudge (Apiaceae) in Queensland, 1. *Austrobaileya* 3(1): 135-139.

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